

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-026786**Date Inspected:** 30-Nov-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** John Pagliero**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Sections**Summary of Items Observed:**

This Quality Assurance (QA) Inspector, Craig Hager was on site at the job site between the times noted above.

This QA Inspector was on site to randomly observe Quality Control (QC) personnel perform Non-Destructive Testing (NDT) and monitor American Bridge/Fluor (ABF) welding operations. This Quality Assurance (QA) Inspector, Craig Hager observed the following.

SAS – Tower – F.W. Spencer:

This QA Inspector was informed by F.W. Spencer foreman Hector Garcia the 3-inch pipe wedges would be welded to the channel supports at the 53 meter elevation. He stated the wedges would support the weight of the pipe and the clamps would keep the pipe in place but still allow the pipe to slide up and down due to expansion and contraction during temperature changes. This QA Inspector randomly observed as QC Inspector Steve Jensen verified the fit up of the wedges and was informed he had accepted the fit up. This QA Inspector performed a visual verification and they (2) appeared to comply with the contract requirements. This QA Inspector observed the base metal was heated with a hand held torch prior to welding. QC Inspector Steve Jensen provided this QA Inspector a copy of what appeared to be an approved (stamped) Welding Procedure Specification (WPS) for fillet welds, FWS Fillets Murex SFOBB Revision-1. This QA Inspector observed QC Inspector Steve Jensen verify the following Shielded Metal Arc Welding (SMAW) parameters; 120 amperes. This QA Inspector observed a 1/8-inch (3.2 mm) diameter E7018H4R electrode was being used by F.W. Spencer welding personnel Damian Llanos (#6645). The welding observed appeared to comply with WPS- FWS Fillets Murex SFOBB Revision-1. This QA Inspector was informed the welding had been completed and a visual inspection performed and accepted by QC Inspector Steve Jensen. This QA Inspector performed a random visual verification and the work appeared

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to comply with the contract requirements.

F.W. Spencer foreman Hector Garcia informed this QA Inspector the 3-inch air line piping from the top of the tower to the 53 meter elevation was completed and that equipment was going to be relocated therefore no more welding would be performed the remainder of the shift. The equipment was being relocated prior to starting the piping from the 53 meter elevation to the bottom of the tower.

13E/14E-weld joint D-1(SPCM): This weld joint is a Complete Joint Penetration (CJP) butt weld joining a 30 mm thick plate to a 35 mm thick plate. This QA Inspector monitored the Ultrasonic Testing (UT) being performed by QC personnel from inside the OBG section, face A. This QA Inspector observed QC Inspector John Pagliero start the UT at the outboard end (adjacent to weld joint H) disengaging this location as the "Y" starting point. This QA Inspector observed the first 300 mm (approximately) were marked "No UT" and was informed by QC Inspector John Pagliero the bottom side of the weld joint had not been prepared for UT and still required some grinding. This QA Inspector observed as QC Inspector John Pagliero performed UT from both sides of the joint from face A.

The transducer being used appeared to be a standard style 70 degree shearwave as describe by American Welding Society (AWS). This QA Inspector observed the primer coating appeared to be removed for a distance greater than what is required to scan using the first leg of the sound path. This QA Inspector observed the scanning patterns, as described in AWS D1.5-02, appeared to be used as best as possible around the stiffeners welded to the deck. This QA Inspector observed not only the stiffeners presented scanning issues but that the bolt drift pins and bolts/nuts also appeared to limit the access needed to provide 100% coverage from this face of the weld. See photos below. QC Inspector John Pagliero informed this QA Inspector a Request For Information (RFI) either had been or will be submitted regarding this issue and stated that he had been instructed to scan this weld from face B, both sides. This QA Inspector observed QC Inspector John Pagliero scan from approximately Y-300 to Y- 3,000 mm and in that length observed; 8-areas marked as reject and 6-areas marked as recordable indications. QC Inspector John Pagliero informed this QA Inspector he was recording all indications that had a rating 6 db less than a class C indication. This QA Inspector observed QC Inspector Jesus Cayabyab continued scanning where QC Inspector John Pagliero left off and this QA Inspector observed another 1,200 mm of UT inspection. QC Inspector Jesus Cayabyab appeared to using the same equipment and scanning technique which appeared to comply with the contract requirements. This QA Inspector observed QC Inspector Jesus Cayabyab marked 2-recordable indications and marked 2 additional areas for further evaluation in Y-3000 to Y-42000. This QA Inspector also observed QC Inspector Jesus Cayabyab perform a verification of the both the rejected and recordable indications previously marked out by QC Inspector Pagliero. In general the UT observed this shift appeared to comply with the contract requirements.

13E/14E-weld joint A: This QA Inspector randomly observed ABF welding personnel Xio Jian Wan setting up equipment to begin using the carbon arc process to begin removing the backing bar and back gouging this weld from the bottom side (inside the OBG section). This QA Inspector observed the carbon arc process began at approximately 1330 hours this shift and was not completed this shift.

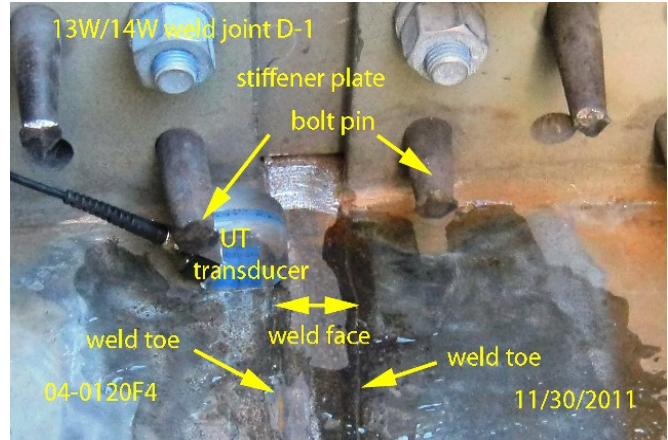
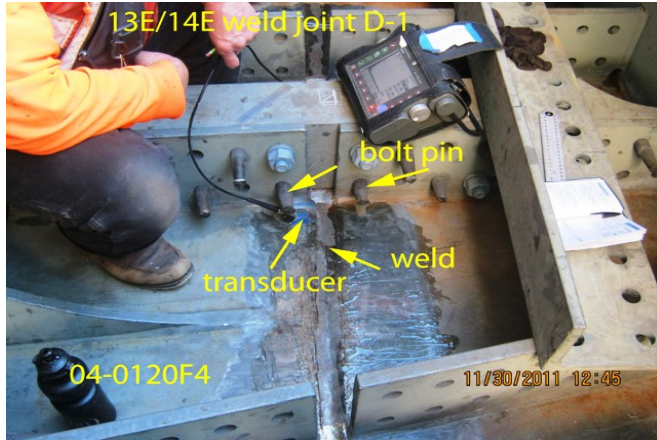
This QA Inspector verbally informed QA SPCM Lead Inspector, Daniel Reyes, of the issues noted in this report for compliance therefore for further details of issues of significance see QA SPCM Lead Inspector, Daniel Reyes, Daily Inspection Report (6031) for this date.

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Summary of Conversations:

This QA Inspector had general conversations with American Bridge/Fluor (ABF) and Caltrans personnel during this shift. Except as described above and noted above there were no notable conversations.



Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy (510) 385-5910, who represents the Office of Structural Materials for your project.

Inspected By: Hager,Craig

Quality Assurance Inspector

Reviewed By: Levell,Bill

QA Reviewer
